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EXAMINER	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

Ex parte JOSEPH A. FERNANDO,
JOHN D. TEN EYCK, and THOMAS S. LACKI

Appeal 2012-001554
Application 09/560,469
Technology Center 1700

Before RICHARD E. SCHAFER, PETER F. KRATZ, and
BEVERLY A. FRANKLIN, *Administrative Patent Judges*.

FRANKLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1, 2, 5-13, 16-27, 41-44, and 47-57. We have jurisdiction under 35 U.S.C. § 6. An oral hearing was held on November 8, 2012.

STATEMENT OF THE CASE

Claim 1 is representative of the subject matter on appeal and is set forth below:

1. A device for the treatment of automotive exhaust gases comprising:

a housing having an inlet at one end and an outlet at an opposite end through which exhaust gases flow;

a fragile structure resiliently mounted within said housing, said fragile structure having an outer surface and an inlet end surface at one end in communication with said inlet of said housing and an outlet end surface at an opposite end in communication with said outlet end of said housing;

a support element disposed between the housing and the fragile structure, said support element comprising an integral, substantially non-expanding ply of melt-formed ceramic fibers comprising about 40 weight percent to about 60 weight percent alumina and about 60 weight percent to about 40 weight percent silica, and a sacrificial binder, wherein said fibers having been prepared by a process including heat treating said fibers under a time-temperature regiment comprising heat treating said fibers at a temperature of 990°C to at least 1050°C for greater than 1 hour such that the treated fibers have about 5 to about 50 percent crystallinity as detected by X-ray diffraction, and a crystallite size of greater than 200Å to about 500Å and

wherein said support element exerts a minimum residual pressure for holding said fragile structure within said housing of one of at least 4 psi after 200 cycles of testing at 900°C or at least 10 psi after 1000 cycles of testing at 750°C.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Myles	4,240,833	Dec. 23, 1980
Langer	5,250,269	Oct. 5, 1993
Robinson et al. (Robinson)	5,580,532	Dec. 3, 1996
Sasaki et al. (Sasaki)	JP 09 286 514	Oct. 31, 1995

THE REJECTIONS[1]

1. Claims 1, 2, 5, 6, 8-13, 16, 17, 19-27, 47-50, and 52-57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Robinson in view of Myles and Langer.

2. Claims 7, 18, 41-44, and 51 stand rejected under 35 U.S.C. §103(a) as obvious over Robinson in view of Myles and Langer, as applied to claims 1, 9, 12, and 21, and further in view of Sasaki.

ISSUE

Did the Examiner err in determining that there is a reasonable expectation of success in arriving at the claimed invention as set forth in Appellants' claim 1 (and particularly with regard to the recited support element), by substituting the melt-formed ceramic fibers of Myles for the ceramic fibers in the support element of Robinson?

We answer this question in the affirmative and REVERSE.

ANALYSIS

As an initial matter, because of the new grounds of rejections, we use Appellants' Reply Brief filed on September 1, 2011 since the new grounds of rejections are addressed in this Reply Brief.

It is the Examiner's position that because Langer teaches that melt formed ceramic fibers have been used in making a support element used in catalytic converters, that it would have been obvious to have employed the melt-formed ceramic fibers of Myles as the ceramic fibers of the support element of Robinson. Ans. 6-7.

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[1] These are new grounds of rejections. The Examiner added Langer to each of the original rejections. Ans. 4.

It is Appellants' position, inter alia, that because Langer is directed to ceramic fibers that are "substantially amorphous"; the Examiner has not established a reasonable expectation of success in making a device corresponding to the claimed device having the claimed support element that exerts a minimum residual pressure for holding a fragile structure within an automotive exhaust gas treatment housing using the kind of fibers in Myles (which, Appellants submit, are not the kind of fibers described in Langer). Reply Br. 10-15. Langer, col. 2, ll. 58-59, col. 3, ll. 4-5. Appellants also submit that Langer teaches away from using the kind of fibers described in Myles because Langer teaches that the type of fibers that achieve the required resiliency value for holding a metallic monolith within the housing of an exhaust gas treatment device "can be annealed to develop a fine-grained crystalline form . . . while avoiding higher temperatures that would result in a coarse-grained structure and consequently in an unsatisfactory Resiliency Value". Reply Br. 23. Langer, col. 2, ll. 51-56. Appellants argue that Myles, on the other hand, is directed to ceramic fibers having a coarse-grained structure (as defined by the teachings of Langer and Johnson) as explained in detail by Appellants on page 24 of the Reply Brief (which we do not repeat herein), and thus, Appellants submit that Langer and Myles teach away from each other. Thus, Appellants submit that it is not predictable that a melt-formed fiber blanket of the type in Myles, which is disclosed for use as a furnace insulation mat by Myles, would have adequate holding force as needed for the Robinson device. Reply Br. 25.

At page 12 of the Answer, the Examiner states:

> Appellant's arguments, however, are not found persuasive, because Langer was merely relied upon to evidence that the use of melt-

> formed ceramic fibers for forming support elements in catalytic converters was known. Furthermore, as noted in the discussion above, the Johnson et al. citation merely evidences that the teachings of ceramic fiber blankets or mats for furnace applications would be highly relevant to exhaust gas applications. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

Notably absent from the Examiner's aforementioned position is any dispute of Appellants' aforementioned factual assertions. Also, the Examiner does not address Appellants' position that there would not have been a reasonable expectation of success in using the fibers of Myles (coarse-grained) because Langer teaches away from use of such fibers for achieving the required resiliency value for holding a metallic monolith within the housing of an exhaust gas treatment device. It appears that the Examiner believes that Langer's suggestion that ceramic fiber blankets or mats for furnace applications would be relevant to exhaust gas applications is a sufficient showing of a reasonable expectation of success to make Appellants' claimed device using the fibers of Myles in the support element of Robinson. However, we agree with Appellants that the Examiner has erred in this regard.

> To be sure, "to have a reasonable expectation of success, one must be motivated to do more than merely to "vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful."

Pfizer, Inc. v. Apotex, Inc. 480 F.3d 1348, 1365 (Fed. Cir. 2007) (quoting *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006)); *see also*, *Rolls-Royce, PLC v. United Technologies Corp.*, 603 F.3d 1325, 1339 (Fed. Cir. 2010) ("The important question is whether the invention is an 'identified, predictable solution' and an 'anticipated success.'").

In the instant case, the Examiner has not adequately explained why one skilled in the art would have had a reasonable expectation of success in making Appellants' claimed device by using the type of fibers taught by Myles in Robinson when Langer teaches that coarse-grained fibers (such as the type of fibers in Myles, which the Examiner does not dispute) results in an unsatisfactory resiliency value (a certain resiliency value is required for holding a metallic monolith within the housing of an exhaust gas treatment device). The Examiner explains that the fibers in Myles are able to withstand high temperatures without degradation, and that the mat of Myles can be bent in an arc without producing significant cracking or breakage Based thereon, the Examiner speculates that one skilled in the art would expect the mat of Myles to perform satisfactorily in the exhaust environment of Robinson. Ans. 14.

However, the relied upon evidence supports Appellants response made on pages 35-36 of the Reply Brief that Myles fails to teach or suggest that its fibers possess the claimed requisite minimum residual pressure for holding a fragile structure within the housing of a catalytic converter under normal operation conditions. In this regard, the Examiner does not point us to adequate evidence that supports the position that one skilled in the art would have had a reasonable expectation of success that the fibers of Myles

would possess such properties, especially in view of Langer's teachings, as discussed, supra.

As such, the evidence favors Appellants' viewpoint that the Examiner has not reasonably established that one of ordinary skill in the art would have been led to employ the type of fibers taught by Myles in the support element of Robinson with a reasonable expectation of success in arriving at a device for treating exhaust gases having an acceptable mounting mat for fragile structures that corresponds to the device as claimed by Appellants.

In view of the above, we reverse Rejection 1. We also reverse Rejection 2 for the same reasons (the additional reference of Sasaki does not cure the aforementioned deficiencies of the applied references of Rejection 1).

CONCLUSIONS OF LAW AND DECISION

Each rejection is reversed.

REVERSED

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